

CLAIMS

1. A composite footwear insole having a front portion  
(2) for interacting with the user's foot at the  
5 metatarsal region and at least partly at the plantar  
arch, and a rear portion (3) for interacting with the  
foot over the heel region, characterized in that said  
rear portion (3) has at least one layer (4) of gel  
material whose plan size is substantially equal to that  
10 of said rear portion (3) and smaller than the plan size  
of the entire insole to uniformly support the heel and  
absorb stresses acting thereon, said gel layer (4)  
having an upper surface (5) for interacting with the  
heel that has no discontinuities to further increase  
15 comfort.

2. Insole as claimed in claim 1, characterized in that  
said gel layer (4) is made of one piece and has said  
upper surface (5) visible from outside.  
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3. Insole as claimed in claim 2, characterized in that  
said rear portion (3) is wholly made of gel material.

4. Insole as claimed in claim 2, characterized in that  
25 said rear portion (3) comprises a support base (7) made  
of a semi-rigid, natural or synthetic material,  
underlying said gel layer (4).

5. Insole as claimed in claim 1, characterized in that  
30 said gel layer (4) is finished at least on said upper  
surface (5) with a varnish which is capable of reducing  
tackiness between said rear portion (3) and the heel.

6. Insole as claimed in claim 2, characterized in that said gel layer (4) has a raised peripheral edge (4) to conform to the heel anatomy and favor retention thereof.

5 7. Insole as claimed in claim 1, characterized in that said front portion (2) comprises at least one layer of transpiring material.

8. Insole as claimed in claim 4, characterized in that  
10 said semi-rigid support base (7) continuously extends even at said front portion (2).

9. Insole as claimed in claims 7 and 8, characterized in that said support base (7) extends under said  
15 transpiring layer at said front portion (2).

10. Insole as claimed in claim 2, characterized in that said gel layer (4) is joined to said front portion (2) by a substantially continuous connecting portion (8).

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11. Insole as claimed in claim 2, characterized in that said rear portion (3) has a one-piece appendage extending toward the plantar arch of the foot.

25 12. Insole as claimed in claim 2, characterized in that said front portion (2) comprises a gel insert (10) placed at the metatarsal region.

13. A method of manufacturing a footwear insole as  
30 claimed in one or more of the preceding claims, comprising the steps of forming a front portion (2) designed to interact with the foot at the metatarsal region and partly at the plantar arch, and forming a

rear portion (3), integral with the front portion (2),  
and designed to interact with the heel, characterized  
in that it comprises the step of forming a gel layer  
(4), and molding it in a special mold, substantially  
5 over the whole plan size of said rear portion (3) and  
less than the plan size of the entire insole.

14. Method as claimed in claim 13, characterized in  
that said gel layer (4) is co-molded with said front  
10 portion (2).

15. Method as claimed in claim 13, characterized in  
that said gel layer (4) is co-molded with said front  
portion (2) and a semi-rigid support base (7).

16. Method as claimed in claim 13, characterized in  
that the front portion (2) and the rear portion (3) are  
fabricated separately and are later joined by a  
substantially continuous connecting junction.

20 17. Method as claimed in claim 13, characterized in  
that said gel layer (4) is coated at an upper surface  
(5) thereof with a varnish which is capable of reducing  
its tackiness to the heel.

25 18. Method as claimed in claim 13, characterized in  
that a non-stick varnish is previously applied on said  
mold for coating an upper surface (5) of the gel layer  
(4) to reduce its tackiness to the heel.